

**Notice of Allowability**

Application No.

10/757,524

Applicant(s)

HANSEN ET AL.

Examiner

Art Unit

Eric Coleman

2183

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE, amendment, and information disclosure statement filed 11/21/06.
2. ☒ The allowed claim(s) is/are 1-54.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
Eric Coleman  
Primary Examiner

### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance: The combination of features in the independent claims 1,13,14,26,27,37,41, and 51 was not found in the prior art as follows: the prior art comprises processor comprising instruction path, data path, external interface, cache, register file and execution unit as well as decoding an instruction that specifies registers for source and destination and operates on data that is a data width that is smaller than the width of the register and concatenating data and storing data in a result in a predetermined portion of the register. The prior art also comprises using at least one index for addressing data and performing the access and operations on vector data. However the following combination of features was not found in the prior art in claims 1 and 14); an execution unit coupled to the instruction path and the data path and operable to decode and execute instructions received from the instruction path wherein in response to decoding a single instruction specifying a data selection operand and a first and second register each having a register width, the first and second registers providing a plurality of data elements each having an elemental width smaller than the register width of the first and second registers, the data selection operand comprising a plurality of fields each selecting one of the plurality of data elements, the execution unit is operable to provide the data element selected by each field of the data selection operand to a predetermined position in a concatenated result. Also the combination of features in independent claims 13 and 26 was not found in the prior art as follows: an execution unit coupled to the instruction path and the data path and operable to decode and

execute instructions received from the instruction path, wherein in response to decoding a single instruction specifying a data selection operand and a register having a register width, the register providing a plurality of data elements each having an elemental width smaller than the register width of the register, the data selection operand comprising a plurality of fields each selecting one of the plurality of data elements, the execution unit is operable to provide the data element selected by each data field of the data selection operand to a predetermined position in a concatenated result. Also the combination in independent claims 27 and 37 was not found in the prior art as follows: the features in claim 27 comprise an instruction path; a data path, plurality of registers operable to receive and store data from the data path and communicate the stored data to the data path; and execution unit coupled to the instruction path and the data path and operable to decode and execute instructions received from the instruction path, wherein in response to decoding a single instruction specifying a plurality of registers storing a plurality of 8-bit data elements, an index register storing an index vector comprising a plurality of equal sized selectors stored in partitioned fields of the index register and a destination register, the execution unit is operable to for each selector in the index vector, provide a data element selected by the selector to a predetermined position in the destination register. The variation to the combination in claim 27 that is claimed in claim 37 where the single instruction specifies a first register storing a plurality of 8-bit elements instead of a plurality of registers also was not found in the prior art. Also the variations to claims 27 and 37, in claims 41 and 51 were not found in the prior art.

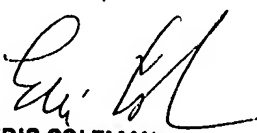
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Coleman whose telephone number is (571) 272-4163. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EC

  
ERIC COLEMAN  
PRIMARY EXAMINER